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# The Potential of the “Thailand-Plus-One” Business Model —A New Fragmentation in East Asia—

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## Summary

1. “Thailand-Plus-One” is a business model in which Japanese companies operating in industrial clusters in Thailand transfer the labor-intensive parts of their production processes to special economic zones (SEZs) in Cambodia, Laos and Myanmar near their borders with Thailand.
2. The Thailand-Plus-One business model is derived from the fragmentation that have been a feature of world trade and investment since 2000. However, it differs from traditional models in that it links on small- and medium-sized cities in border areas.
3. Two factors are helping to turn the Thailand-Plus-One business model into reality. The first is the dwindling attractiveness of labor-intensive production in Thailand due to rising wages and labor shortages in that country. The unemployment rate in Thailand is under 1%, and wages have increased over 30% over the last two years. The second factor is the improvement of political and economic condition of the CLM countries—Cambodia, Laos and Myanmar—as recipients of investment by foreign companies. In recent years their growth rates have exceeded those of the original ASEAN countries, and they are all now making the transition to middle-income status. Another factor that has brought them to the fore as investment targets is the proactive efforts made by their governments to attract foreign companies.
4. There is a high probability that the Thailand-Plus-One business model will move ahead still further due to the following three factors. The first is full-scale participation by Myanmar. However, Laos and Cambodia are unsuitable as absorbers of labor-intensive production from Thailand, Myanmar has a population similar to that of Thailand, making long-term supply chain cost reductions feasible. An additional advantage is the fact that once a road link to Dawei is completed, it will be easy to export goods from production clusters in Thailand to India, the Middle East and Africa without having to pass through the Strait of Malacca.
5. The second factor is the development of transportation infrastructure in Thailand. The investment of 2 trillion baht into the improvement of transportation infrastructure development between 2013 and 2020, including the construction of a new railway linking Bangkok with neighboring countries, is expected to reduce transportation costs within supply chains centered on Thailand.
6. The third factor is increased support for the CLM countries from Japan and international financial institutions. This is expected to result in wide-ranging infrastructure improvements. Moreover, it is anticipated that the Greater Mekong Sub-region development program coordinated by Asian Development Bank (ADB) will lead to increased development of power supply systems and road networks in these countries. In addition, Japan promised ¥90 billion of assistance.
7. The Thailand-Plus-One business model is a valuable tool for Japanese companies hoping to develop and secure markets in the rapidly growing emerging and developing countries. To realize the full potential of the concept, it will be necessary to raise the productivity of manufacturing bases in Thailand.

## Introduction

In recent years, Cambodia, Laos and Myanmar (the CLM countries) have become the focus of keen interest as the last new frontier of East Asia.

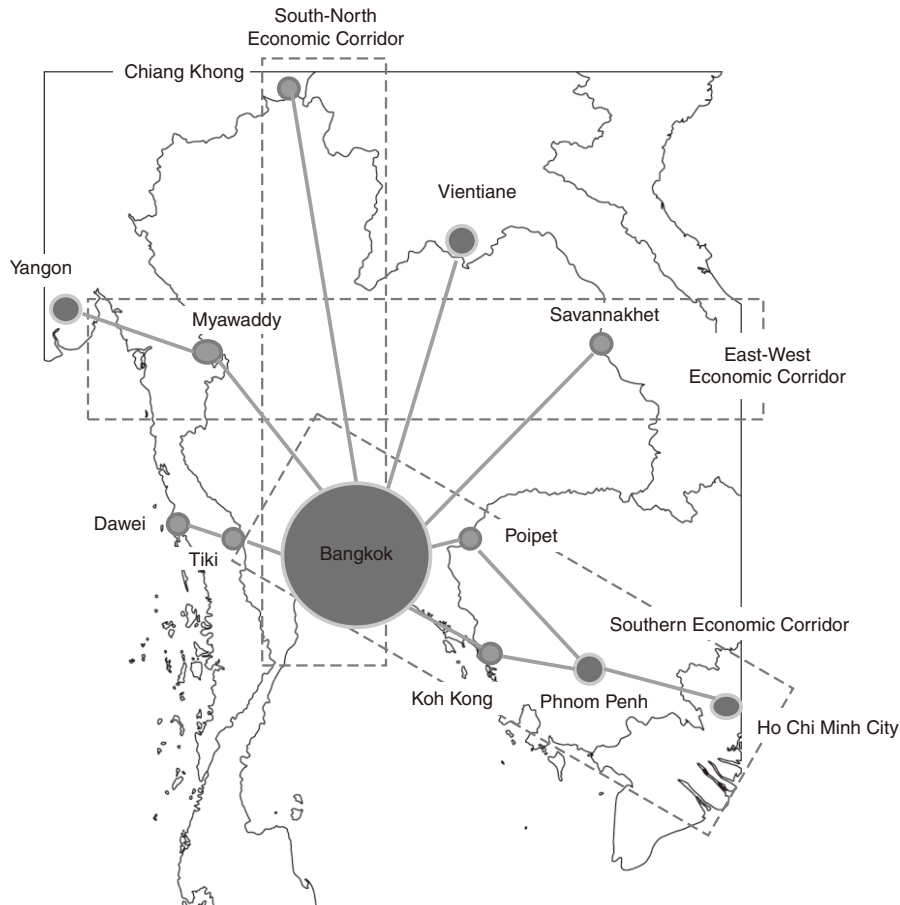
Until the mid-2000s, these countries were classed as low-income countries according to the World Bank definitions. However, they have subsequently achieved sustained economic growth against a backdrop of economic globalization, and they are starting to make the transition to middle-income status. At the same time, wages have been rising in China and the original ASEAN countries, with the result that the CLM countries have all begun to attract attention as sources of low-cost labor. Myanmar in particular has experienced a boom in investment fact-finding tours since the Thein Sein administration, which took office in March 2011, made a major policy shift toward po-

litical democratization.

However, all of these countries still have per capita GDP of around \$1,000 and also face a number of challenges linked to their status as low-income countries, such as the elimination of poverty and the prevention of disease. In recent years, there have been signs that companies are starting to move into the CLM countries with the aim of targeting expanding consumer markets in urban areas. However, the importance of this trend should not be overstated.

This article focuses not on business opportunities in individual CLM countries, but rather on the feasibility of a business model based on the improvement of supply chain competitiveness through the inclusion of border cities in the CLM countries into supply chains centering on production clusters in Thailand (Fig. 1). In this article this business model will be referred to as “Thailand-

**Fig. 1 Economic Corridors and Thailand-Plus-One**



Source: Compiled by JRI

Plus-One.”

It could be argued that it would be premature to look at the Thailand-Plus-One concept as a new business model, since while some Japanese companies are moving labor-intensive production processes from their production sites in Thailand to Laos and Cambodia, the number of actual cases is small. However, when we take into account other factors, such as changes in Thailand’s labor environment and economic and investment environments in the CLM countries, as well as the improvement of transportation infrastructure linking Thailand and the CLM countries, Thailand-Plus-One appears to have the potential to become an important business model for Japanese companies with large-scale production bases in Thailand.

This article is structured as follows. In Part 1 we will review the characteristics of industrial clusters in Thailand and clarify the theoretical positioning of the Thailand-Plus-One business model with reference to fragmentation theory. In Part 2 we look at the factors in Thailand and the CLM countries that are starting to make the Thailand-Plus-One business model appear more realistic. In Part 3 we will look at Myanmar’s participation and progress toward the development of infrastructure as factors that could accelerate the realization of the Thailand-Plus-One business model. In Part 4 we will identify what needs to be done in order to strengthen the Thailand-Plus-One business model.

## 1. Production Clustering and Fragmentation in Thailand

### (1) Thailand’s Industrial Clusters

The Thailand-Plus-One business model centers on production clusters in Thailand. From the viewpoint of Japanese manufacturers, Thailand is the biggest production center in Southeast Asia. Therefore the effective and efficient utilization of this asset is essential to the improvement of the international competitiveness of Japanese companies.

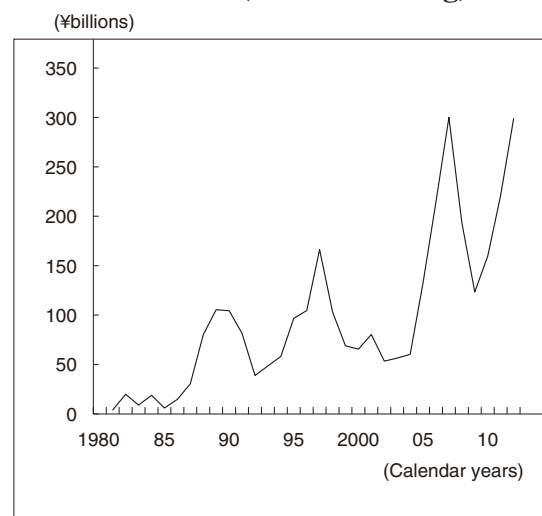
Direct investment in Thailand by Japanese companies jumped sharply in step with the apprecia-

tion of the yen following the signing of the Plaza Accord in 1985 (Fig. 2). Some factors have had a negative impact on Thailand as an investment country, including the currency and economic crisis of the late 1980s, political instability in the late 2000s, and the massive floods of 2011. Despite this, there has been a long-term upward trend in the level of investment in Thailand.

The areas where Japanese companies have established operations are concentrated in industrial parks around Bangkok. Around 80% of investment approvals granted to Japanese business by the Thailand Board of Investment (BOI) relate to investments in Bangkok and the eight surrounding provinces (Oizumi [2010]).

The nature of these investments has changed over time, and new production clusters have formed around Bangkok. Most of the companies that moved into Thailand during the 1980s and 1990s were manufacturers of finished goods. After that, increasing numbers of primary and secondary suppliers have established operations in Thailand, and in recent years there has also been an increase in the presence of tertiary suppliers<sup>(1)</sup>. The main focus of industrial production in Thailand has shifted from labor-intensive products to capital- and technology-intensive products. For example, Thailand is the world’s tenth biggest producer

**Fig. 2 Japanese Direct Investment in Thailand (Manufacturing)**



Source: Compiled by JRI using Bank of Japan and Ministry of Finance data

of motor vehicles (2.45 million units in 2012) and accounts for 40% of global hard disk drive (HDD) production.

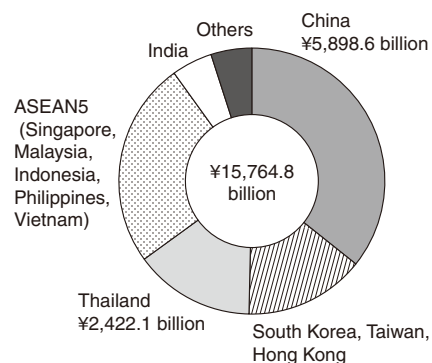
The increasing integration of production sites around Bangkok is apparent from the expansion of exports, not only of finished goods, but also of parts for those products. For example, the third biggest category of exports of manufactured goods in 2010 was computer parts, while transportation equipment parts ranked seventh and digital and video camera parts tenth (Oizumi [2013]).

Production bases in Thailand are no longer used solely for production activities based on low-cost labor, and today they play a key role in global supply chains. This is apparent from the fact that the suspension of production operations by companies in Thailand during widespread flooding in 2011 had a massive impact on global supply structures, as well as on the Japanese economy (Ministry of Economy, Trade and Industry [2012]).

Current estimates indicate that there are over 4,000 Japanese companies operating in Thailand, including 2,000 manufacturers. According to figures published by Bank of Japan, the direct investment position in Thailand by Japanese manufacturers reached ¥2,422.1 billion at the end of 2012. This is equivalent to over 40% of investment in China, which amounted to ¥5,898.6 billion (Fig. 3). In terms of industrial sectors, the transportation equipment sector accounted for the highest total at ¥773.1 billion, followed by the electric machinery sector (¥429.5 billion), the iron, non-ferrous and metals sector (¥321.6 billion), and the chemicals and pharmaceuticals sector (¥191.9 billion).

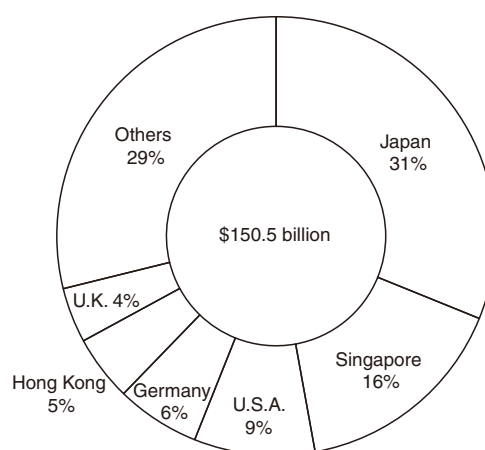
A breakdown of the direct investment position in Thailand in 2011 by country and region shows that Japan's figure is by far the biggest at \$46.9 billion, or 31% of total direct investment. Singapore is the next highest at \$24.1 billion, or 16%, followed by the United States at \$13.4 billion, or 9%, and Germany at \$9.3 billion, or 6% (Fig. 4). Japan has also consistently ranked first on the basis of investment approvals by Thailand Board of Investment (BOI). Japanese investments approved in the first seven months of 2013 amounted to 143.5 billion baht, or 50% of total approvals.

**Fig. 3 Japanese Direct Investment Position in Asia (End of 2012)**



Source: Bank of Japan statistics

**Fig. 4 Balance of Foreign Direct Investment in Thailand (End of 2011)**



Source: Bank of Thailand

The production clusters cannot readily be duplicated in other regions. This is apparent from the fact that the majority of companies have remained in Thailand despite the enormous damage caused by the floods in 2011. Moreover, the labor shortages and wage increases that have occurred in recent years have not been cited as key reasons for withdrawing from Thailand.

Companies that produce only labor-intensive goods are under pressure to relocate as a result of labor shortages and rising wages. There is also pressure to relocate aspects of production operations that involve extremely labor-intensive pro-

duction processes. The CLM countries around Thailand are seen as promising new locations for these companies and processes. The term “Thailand-Plus-One” as used in this article refers to the expansion of supply chains centered on Thailand through the relocation of labor-intensive processes from production clusters in Thailand to the CLM countries.

## (2) Fragmentation Theory and Thailand-Plus-One

Thailand-Plus-One is a new business model resulting from the evolution of production management systems in step with economic globalization, and changes in the economic and social environment of Thailand and the CLM countries. We will examine this business model with reference to the theory of fragmentation.

Fragmentation is a phenomenon that occurs when production activities that were previously carried out in one location are separated into multiple production blocks and dispersed to locations where conditions are suitable for each activity (Kimura [2006]) (Fig. 5).

The upper part of Fig. 5 shows activities in a single factory, from inputs of raw materials to the production of finished goods. As shown in the diagram, however, these activities can be divided into a number of blocks (the five processes shown in the diagram). Overall production costs can be reduced by dispersing each process, or production

block (PB), to a location where conditions are optimal for each activity. The choice of production locations is also influenced by conditions relating to service links (SLs), such as the cost of transportation links between PBs, tariff rates, and trade formalities.

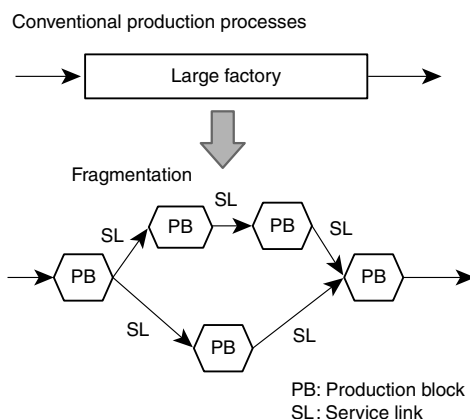
Production blocks can be expected to move in the following two directions in search of optimal conditions. The first is a shift from production within one company to other companies. This pattern occurs when one company outsources part of its production processes to another company, including cases in which there are multiple subcontractors.

The other pattern is a shift from domestic to overseas production. Situations in which companies shift labor-intensive production processes to countries where labor costs are lower fall into this category.

In Kimura, Ando [2005], these shifts from intra-company to inter-company production and from domestic and overseas production are characterized as “two-dimensional fragmentation,” as shown in Fig. 6.

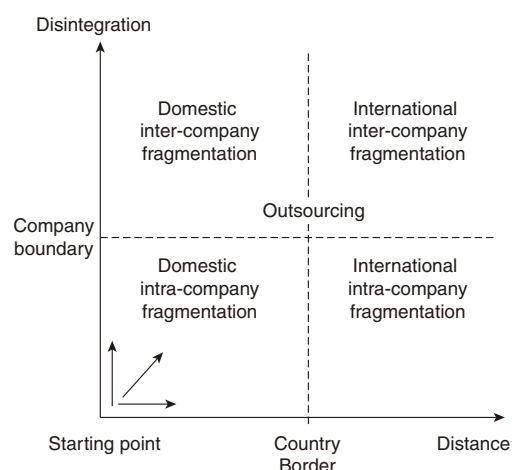
As shown in this diagram, fragmentation has resulted in diversification away from domestic intra-company production in the lower left quadrant to domestic inter-company fragmentation and international intra-company fragmentation and international inter-company fragmentation. Exam-

**Fig. 5 Fragmentation**



Source: Kimura (2006)

**Fig. 6 Two-Dimensional Fragmentation**



Source: Kimura and Ando [2005]

ples of key players in international inter-company fragmentation include Taiwanese companies contracted to produce goods under the brands of Japanese companies<sup>(2)</sup>. In Fig. 7, the same framework is used to show fragmentation between Japan and Thailand.

A feature of fragmentation between Japan and Thailand is the fact that Japanese companies are the key players in many international inter-company in fragmentation. As stated earlier, since 2000 Japanese companies have been expanding into

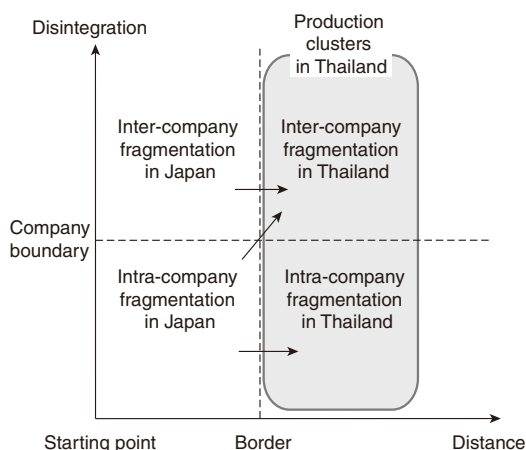
Thailand not only as primary suppliers, but also as secondary and tertiary suppliers. This means that production clusters have evolved in Thailand as a result of cluster formation by Japanese companies involved in intra-company and inter-company fragmentation.

Under the Thailand-Plus-One business model, there will be further evolution of process-based divisions of labor from clusters in Thailand to the CLM countries (Fig. 8).

A major difference between the transfer of processes between Thailand to the CLM countries and between Japan and Thailand is the fact that processes are being relocated from Thailand not only to major population centers, such as Phnom Penh in Cambodia and Yangon in Myanmar, but also to small and medium-sized cities in border regions. These new fragmentation can be attributed to the formation of an amenable environment due to a combination of factors. First, companies are able to take advantage of wage differences by positioning their production sites in locations that are relatively close to borders. Second, transportation links between production sites and border cities have improved. Third, the CLM countries have started to seek investment in border regions.

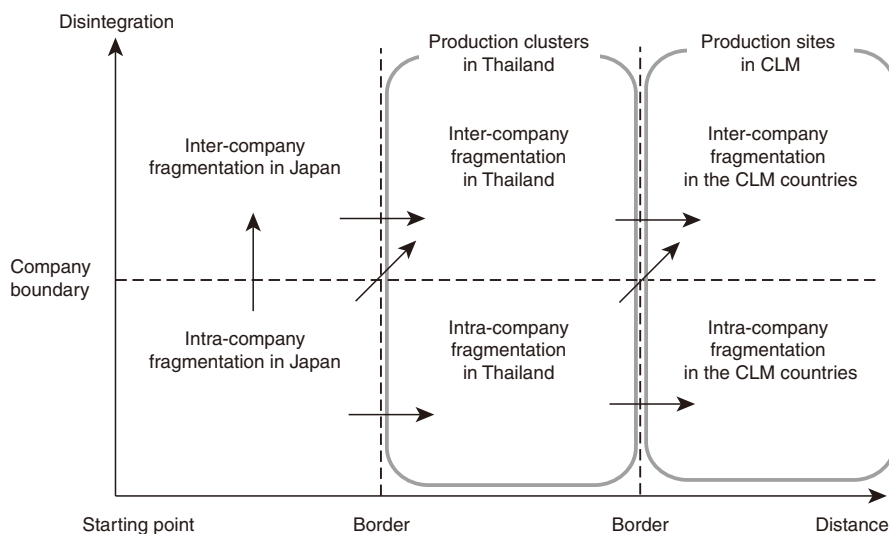
To date there have only been a few cases in which production processes have been transferred

**Fig. 7 Fragmentation between Japan and Thailand**



Source: Compiled by JRI with reference to Kimura and Ando [2005]

**Fig. 8 Positioning of Fragmentation from Thailand to CLM Countries**



Source: Compiled by JRI with reference to Kimura and Ando [2005]

from production sites in Thailand to border regions. Locations include Poipet and Koh Kong in Cambodia, and Savannakhet in Laos. However, the Thailand-Plus-One business model is receiving new impetus from environmental changes, including changes in the labor environment in Thailand in recent years, improving political and economic conditions in the CLM countries, the development of transportation infrastructure in Thailand, and increased assistance to the CLM countries from the international community.

Moreover, given the scale of industrial clusters in Thailand and the wide range of industries covered, Japanese companies need to look at the Thailand-Plus-One approach as an effective business model for making effective use of those production clusters, and as an approach to market development in emerging and developing economies, including India and Africa. These aspects will be examined in the following sections.

## 2. Positive Outlook for Thailand-Plus-One

### (1) Changes in Thailand's Labor Environment

Several factors are contributing to a positive outlook for the Thailand-Plus-One business model. First, there have been changes in Thailand's labor environment, including labor shortages and rising wages.

According to JETRO's 2012 survey of the activities of Japanese-owned businesses based in Asia and Oceania, the leading management problem for businesses in Thailand is rising employee wages. This issue was cited by 77.9% of survey participants. The next highest response was the emergence of competitors (57.2%), followed by the skills and attitudes of local workers (55.0%), the difficulty of recruiting personnel with executive potential (50.3%), and price-cutting pressure from major customers (50.1%). Three of the top five responses cited by survey participants relate to the labor environment.

Fig. 9 traces changes in Thailand's unemploy-

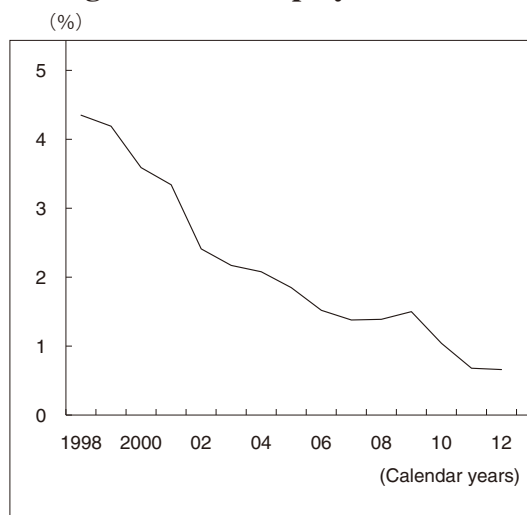
ment rate. From over 4% in 1998, the unemployment rate has fallen almost consistently and has been below 1% since 2010.

Over the past few years, this labor shortage has triggered an accelerating influx of labor from the CLM countries. At the time of the October 2010 population census, the number of foreign residents in Thailand included 1.29 million from Myanmar, 280,000 from Cambodia and 120,000 from Laos. However, foreign companies, especially those approved by the BOI, are not allowed to employ unskilled foreign workers unless they fulfill certain conditions<sup>(3)</sup>.

At the same time, the upward trend in wages has also accelerated. Fig. 10 traces trends in the average monthly wage. The average wage for manufacturing sector workers has risen from 7,900 baht in January 2011 to 10,400 baht in April 2013, an increase of over 30%. The rate of increase is accelerating, especially since 2012. This reflects a pledge made by the administration of Yingluck Shinawatra to raise the minimum wage. The minimum wage was increased by 40% in April 2012, and a uniform national minimum wage of 300 baht per day was introduced in January 2013.

Most foreign companies, including Japanese companies, pay their employees more than the minimum wage. However, minimum wage increases also affect wage structures, causing an overall rise in wages. Moreover, because the mini-

**Fig. 9 The Unemployment Rate**



Source: Bank of Thailand

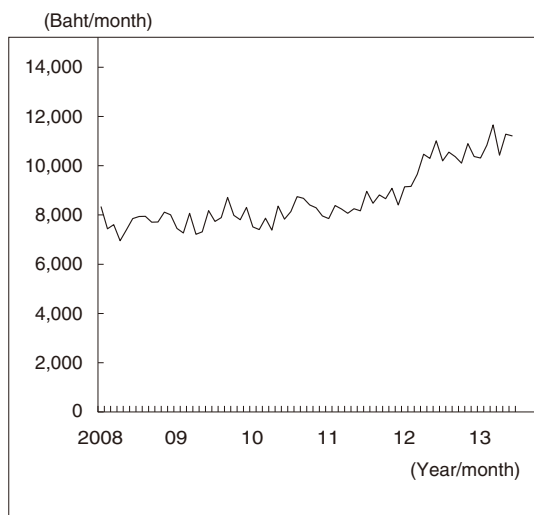
imum wage previously varied according to the region, some companies established their production facilities in provincial areas to take advantage of lower wage levels. The introduction of a standard national minimum wage means that companies no longer gain any advantage by relocating their facilities within Thailand.

There is little possibility that Thailand's labor shortage will be alleviated in the future, since Thailand's birthrate is falling. The total fertility rate (the number of children borne by a woman in her lifetime) stood at 1.5 in 2010. This is far below the replacement level needed to maintain a stable population (approximately 2.1).

According to a 2013 estimate of population trends up to 2040 (medium estimate) prepared by the National Economic and Social Development Board (NESDB), Thailand's population will start to decline in 2027 (NESDB [2013]).

On this basis, the number of people available to engage in productive activities in an age range of around 15-64 will first rise from 45.4 million in 2010 to 46.3 million in 2020 and then fall to 43.7 million in 2030 and 39.7 million in 2040. The youth population (15-29), which is the main source of workers for labor-intensive industry, is already shrinking and is expected to decline from 1.36 million in 2010 to 1.32 million in 2020, 1.17 million in 2030 and 1.04 million in 2040.

**Fig. 10 Average Monthly Wage of Manufacturing Workers**

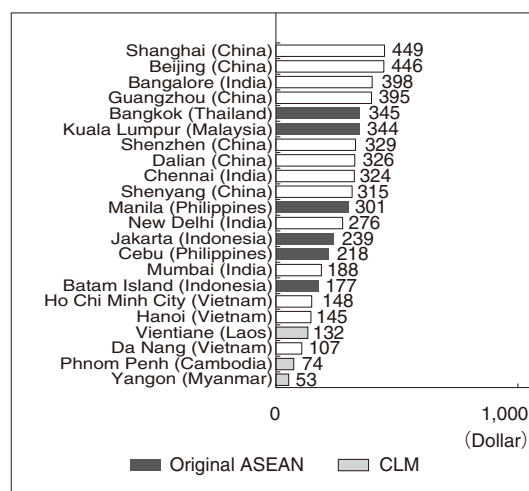


Source: National Statistical Office, Thailand

The Yingluck administration plans to deal with this labor shortage by relocating labor-intensive industries to other countries, and by shifting Thailand's work force into capital-intensive and technology-intensive industries through changes to its investment policy. The changes made to the investment policy put forward by the BOI at the start of 2013 include the abolition of benefits for labor-intensive industries and the reduction of incentives for investment in provincial areas. The government has been widely criticized for the speed with which it is introducing these policy changes, which are currently being reconsidered. Given the current state of the labor environment, however, a shift away from this policy direction seems unlikely.

Wage levels in the CLM countries are substantially lower than in Thailand. According to a JETRO survey, the average wages per worker per month are just \$132 in Vientiane, Laos, \$74 in Phnom Penh, Cambodia and \$53 in Yangon, Myanmar, compared with \$345 in Bangkok, Thailand (Fig. 11). This factor is pushing the transfer of labor-intensive industrial processes from the Thailand.

**Fig. 11 Comparison of Wage Levels in East Asia (Dollars/Month/Worker)**



Source: Based on JETRO, *Toshi Kosuto Hikaku* (Comparison of Investment Costs) (accessed June 25, 2013)



## (2) Improving Political and Economic Conditions in CLM Countries

A second reason why the outlook for the Thailand-Plus-One business model appears positive is the improvement of political and economic conditions in the CLM countries. The CLM countries (or CLMV if Vietnam is included) are classed as the later ASEAN members because they joined ASEAN after the original members (Table 1). Indonesia, the Philippines, Thailand, Malaysia and Singapore, which were members when ASEAN was founded in August 1967, and Brunei, which joined in 1984, are classed as the original mem-

bers.

The original reason for the establishment of ASEAN was to maintain national security by maintaining peaceful relations with neighboring countries. The Cold War was at its height, and the CLMV countries, which were receiving aid from the former Soviet Union and China, were one of the threats to the security of the original ASEAN members. However, this relationship changed dramatically with the collapse of the Cold War structure. Cambodia abandoned its socialist system entirely, while Vietnam and Laos shifted from planned to market-based economic systems, albeit maintaining their socialist systems. Although Myanmar still retained a controlled economic system under military rule, it moved closer to ASEAN by opening its doors to other countries. With the end of the Cold War, these countries ceased to be a threat to the original ASEAN members. Vietnam joined ASEAN in 1995, followed by Laos and Myanmar in 1997 and Cambodia in 1999.

Economic and social conditions in the later ASEAN members are substantially different from those in the original members. The analysis of economic and social indicators for the ASEAN members in Table 2 shows that there is a wide gap in per capita GDP between the original and later ASEAN members. In 2005, all of the CLM countries were low-income countries with per capita GDP below \$1,000. By 2011, the per capita GDP for the original ASEAN members had reached ap-

**Table 1 ASEAN Membership Date, Population, Size of Economy**

	Membership Date	Population (Millions)	Size of Economy (\$billions)
Original ASEAN members		441.1	1,961.3
Indonesia	8/8/1967	242.3	846.8
Philippines	8/8/1967	94.9	224.8
Malaysia	8/8/1967	28.9	287.9
Thailand	8/8/1967	69.5	345.7
Singapore	8/8/1967	5.2	239.7
Brunei	1/8/1984	0.4	16.4
Later ASEAN members		156.8	200.9
Vietnam	7/28/1995	87.8	123.6
Laos	7/23/1997	6.3	8.3
Myanmar	7/23/1997	48.3	56.2
Cambodia	4/30/1999	14.3	12.8
All ASEAN		597.9	2,162.2

Notes: Population and size of economy as of 2011  
Source: ASEAN Secretariat, World Bank, *World Development Indicators*

**Table 2 Economic and Social Indicators for ASEAN Members**

	Per Capita GDP (\$)	Agricultural Workforce Ratio (%)	Urbanization Ratio (%)	Infant Mortality (‰)
Original ASEAN members				
Singapore	46,241	0.1	100.0	2.6
Brunei	40,301	–	–	–
Malaysia	9,977	12.0	71.0	6.5
Thailand	4,972	38.7	34.6	12.3
Indonesia	3,495	35.9	49.8	31.8
Philippines	2,370	33.0	66.4	25.4
Later ASEAN members				
Vietnam	1,407	48.4	30.5	21.7
Laos	1,320	76.3	33.2	41.9
Cambodia	897	71.3	19.5	42.5
Myanmar	852	–	30.7	62.4

Notes: Per capita GDP and agricultural workforce ratios as of 2011 (Laos: 2005), urbanization ratios as of 2010, infant mortality as of 2011  
Source: ADB, *Key Indicators*, World Bank, *World Development Indicators*

proximately \$5,000, while that of the later ASEAN members had barely risen above \$1,000. The original ASEAN members are a group of middle-income countries, while the later ASEAN members are in transition from low-income to middle-income status. This is apparent from their high agricultural workforce ratios, low urbanization ratios and persistently high infant mortality ratios.

The factor that has stimulated intense interest in the CLM countries is their consistently high economic growth rates in recent years. Fig. 12 shows that the growth rates for the CLM countries are above the average for the original ASEAN members. According to IMF forecasts, growth averaging over 6% per annum can be expected to continue until 2018. The CLM countries are in the process of moving from low-income to middle-income status as defined by the World Bank. Their poverty ratios are falling rapidly, and their markets for consumer goods and durable consumer goods are expanding<sup>(4)</sup>.

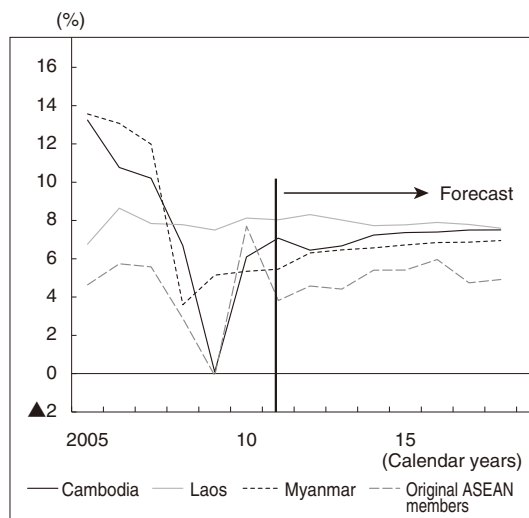
The driving force for growth in the CLM countries is foreign investment. Low-income countries are known to suffer from a vicious circle of poverty, in which low incomes keep savings rates low, with the result that investment and productivity also remain low. It has been assumed that low-income countries need to increase their own savings rates in order to achieve growth.

Savings rates in the CLM countries are still low (Fig. 13). However, the accelerating globalization of recent years has meant that countries with low savings rates can still boost their growth rates by attracting foreign investment and developing the infrastructure and systems needed to encourage investment (IMF [2013]).

Direct investment and aid from East Asian countries have in fact contributed to the high growth achieved by the CLM countries in recent years. Direct investment (cumulative) in Cambodia increased from \$993 million in 2000-2005 to \$4,264 million in 2006-2011, while the figure for Laos rose from \$126 million to \$1,637 million over the same period, and that for Myanmar from \$1,413 million to \$4,857 million.

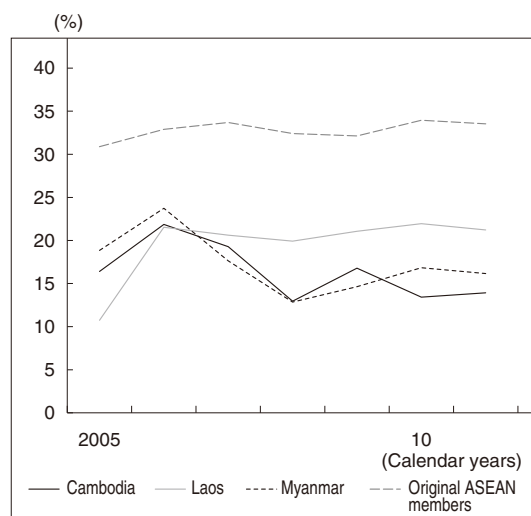
These dramatic increases in direct investment have also been accompanied by rapid export ex-

**Fig. 12 Real GDP Growth Rates of CLM Countries**



Source: IMF, *World Economic Outlook*, April 2013

**Fig. 13 Domestic Savings Rates of CLM Countries**



Source: IMF, *World Economic Outlook*, April 2013

pansion. Cambodia's exports increased from \$10,880 million in 2000-2005 to \$28,675 million in 2006-2011, exports from Laos from \$2,852 million to \$10,828 million, and exports from Myanmar from \$17,236 million to \$36,338 million. These figures are indicative of an increased commitment to the world economy.

These trends are attributable in part to the improvement of foreign investment acceptance mechanisms. All of the CLM countries provide incentives for investment by foreign companies, in-

cluding corporate tax exemptions or reductions for specific periods, and reduced or zero import tariffs for raw materials, machinery and equipment. They are also supporting infrastructure development at industrial parks. A factor that has made the Thailand-Plus-One business model appear even more realistic is the fact that the governments of Cambodia and Laos have established special economic zones not only in areas around their capitals, but also in border regions. Foreign development companies plan to participate in the development of industrial parks in these zones.

In 2015, the CLM countries plan to abolish tariffs for imports from within the ASEAN region. This will have a positive effect on business management by facilitating the procurement from Thailand of not only raw materials and machinery, but also consumer goods to support the living standards of employees. The CLM countries are also expected to improve their systems, including the establishment of one-stop services to simplify customs clearance processes.

As is apparent from the preceding analysis, the reasons why the Thailand-Plus-One business model has started to appear more realistic include both push factors linked to changes in Thailand's labor market, and pull factors resulting from economic growth in the CLM countries.

### 3. Factors that will Accelerate the Formation of the Thailand-Plus-One Business Model

#### (1) Participation by Myanmar

The Thailand-Plus-One business model is currently operating only in the border regions of Laos and Cambodia, and Myanmar is not yet involved. If Myanmar becomes involved on a significant scale, the advantages of the Thailand-Plus-One business model will be further enhanced (Taguchi [2013]).

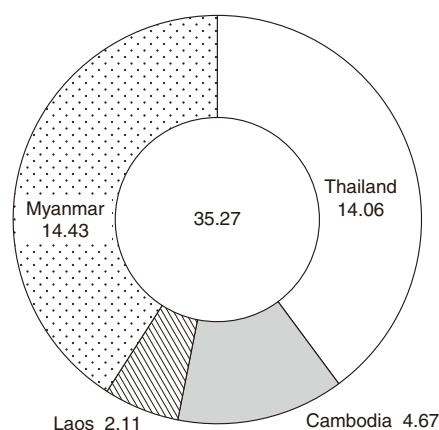
The most important advantage of Myanmar's involvement would be the size of its population. Both Laos and Cambodia have small populations

and do not have sufficient capacity to absorb activity under the Thailand-Plus-One approach. For example, Thailand's youth population (15-29), which supplies most of the workers for labor-intensive industries, was 14.06 million in 2012, compared with just 2.11 million in Laos and 4.67 million in Cambodia (Fig.14). If the influx of foreign-owned businesses into border regions accelerates, wages would rise, and companies could even experience difficulties with labor recruitment.

Myanmar has a large population totaling 52.8 million, moreover, Myanmar's youth population (15-29) is 14.43 million. At present most of these young workers are employed in agriculture, but if Myanmar becomes fully involved in the Thailand-Plus-One business model, these workers will move into the manufacturing sector. This would result in long-term cost reductions for supply chains centering on Thailand.

In fact, low-cost labor from Myanmar is already being employed in labor-intensive production activities in areas near Thailand's border with Myanmar, such as the Mae Sot district. In February 2013, the Yingluck administration made a cabinet decision to establish a special economic zone (SEZ) near the border. However, the fact that Thailand's minimum wage rules are also applied to foreign workers has reduced the benefits of employing workers from Myanmar within Thailand.

Fig. 14 15-29 Population (2010) (Millions)



Source: United Nations, *World Population Prospects: The 2012 Revision*

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The government of Myanmar, which until recently was dubious about the development of border regions, now recognizes that business models such as Thailand-Plus-One are essential to economic development, and has started to build an SEZ near the border.

A key focus in this context is the development of the Myawaddy district in Myanmar, which adjoins the aforementioned Mae Sot district in Thailand, and the Tiki district, which is located midway between Bangkok and Dawei.

Myawaddy is a border city adjoining Thailand's Mae Sot district, and the region is situated on the East-West Economic Corridor. The road on the Thai side of the border is being widened to four lanes, and road construction, funded by Thai capital, is also in progress in Myawaddy. Other improvements in the economic environment in Myawaddy include a major easing of entry restrictions for foreigners crossing the border via Myawaddy in August 2013. In addition, Myanmar-owned companies are operating in an industrial park in Hpa-An, about 150km further into Myanmar from Myawaddy<sup>(5)</sup>. These facilities are also likely to be utilized as soon as the roads have been developed.

Another advantage is the fact that Yangon is only 300km from Myawaddy via Hpa-An. According to a transportation study carried out by JETRO, the journey currently takes over 68 hours because of the poor state of the road. However, if future development results in the construction of a better road, it will be possible to transport goods from Bangkok to Yangon overland as well as by sea (JETRO [2013])<sup>(6)</sup>.

Another key factor is the development of Dawei. Dawei is 300km from Bangkok, about 450km from the industrial areas along Thailand's eastern seaboard, and just 132km from Kanchanaburi Province on Thailand's border with Myanmar. The SEZ development scheme covers a huge area of approximately 20,500 hectares, which is about 10 times bigger than Thilawa. A Thai private sector company commenced development in November 2011.

However, the Thai private company was unable to fund the project alone, and in August 2012 the

governments of Thailand and Myanmar established a high-level bilateral committee as the basis for a development structure led by both countries. The committee has drawn up a master plan with a total budget of \$86 billion, and in June 2013 agreement was reached on the establishment of a special-purpose corporation to handle the development project. The Japanese government is also interested in the development of Dawei, and there will be keen interest in the future evolution of the project. There are plans for a four-lane road linking Bangkok and Dawei, and once this is completed it will be possible to export goods from Thailand to India, the Middle East and Africa without passing through the Strait of Malacca (Fig. 15). Further evidence that this region offers the greatest future growth potential is the fact that this route is also an extension of the Southern Economic Corridor, which links the three biggest cities in Indochina-Ho Chi Minh City, Phnom Penh and Bangkok<sup>(7)</sup>.

Of course, the route from Kanchanaburi Province in Thailand to Dawei traverses a region of steep hills, and road construction will require substantial expenditure and take considerable time. The focus at present will be the construction of an industrial park on the route linking Dawei with Tiki on the Myanmar side of the border with Thailand. A Thai-owned industrial park operator has decided to establish this industrial park, and there will be keen interest in the progress of the project.

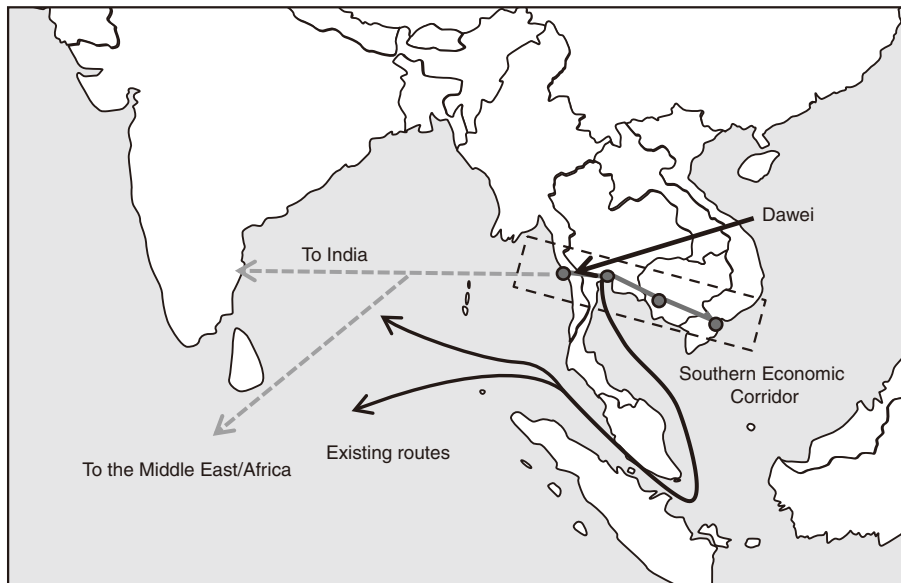
## **(2) Progress toward Infrastructure Development**

### **① Thailand's Transportation Infrastructure Construction Plan**

The improvement of infrastructure in Thailand and the CLM countries will also help to accelerate the realization of the Thailand-Plus-One business model. The first focus will be the development of transportation infrastructure within Thailand.

In March 2013 the Thai cabinet decided to give the Ministry of Finance authority to borrow 2 trillion baht to fund the development of domestic

**Fig. 15 Dawei and the Southern Economic Corridor**



Source: Compiled by JRI

transportation infrastructure between 2013 and 2020.

The aim of this infrastructure development program is to strengthen Thailand's international competitiveness. A specific goal is to improve domestic transportation, which has hitherto relied on roads, through railroad development. This plan to improve transportation infrastructure through railroad development did not originate with the Yingluck administration. It was also a priority for earlier governments, including the administrations of Thaksin and Abhisit. However, implementation of the plan was postponed due to political instability. It has finally reached the realization stage under the administration of Yingluck<sup>(8)</sup>.

Infrastructure development using the 2 trillion baht borrowed under this plan will be divided into the following three strategies (Kakizaki [2013]).

The key words for the first strategy are "modal shift" and "multi-modal." The aim is to reduce Thailand's excessive reliance on road transportation by shifting to rail and marine transportation systems. The strategy includes the updating of rail infrastructure and the construction of double-track lines, as well as port development and the improvement of levees. The total amount borrowed will be 309,564 million baht.

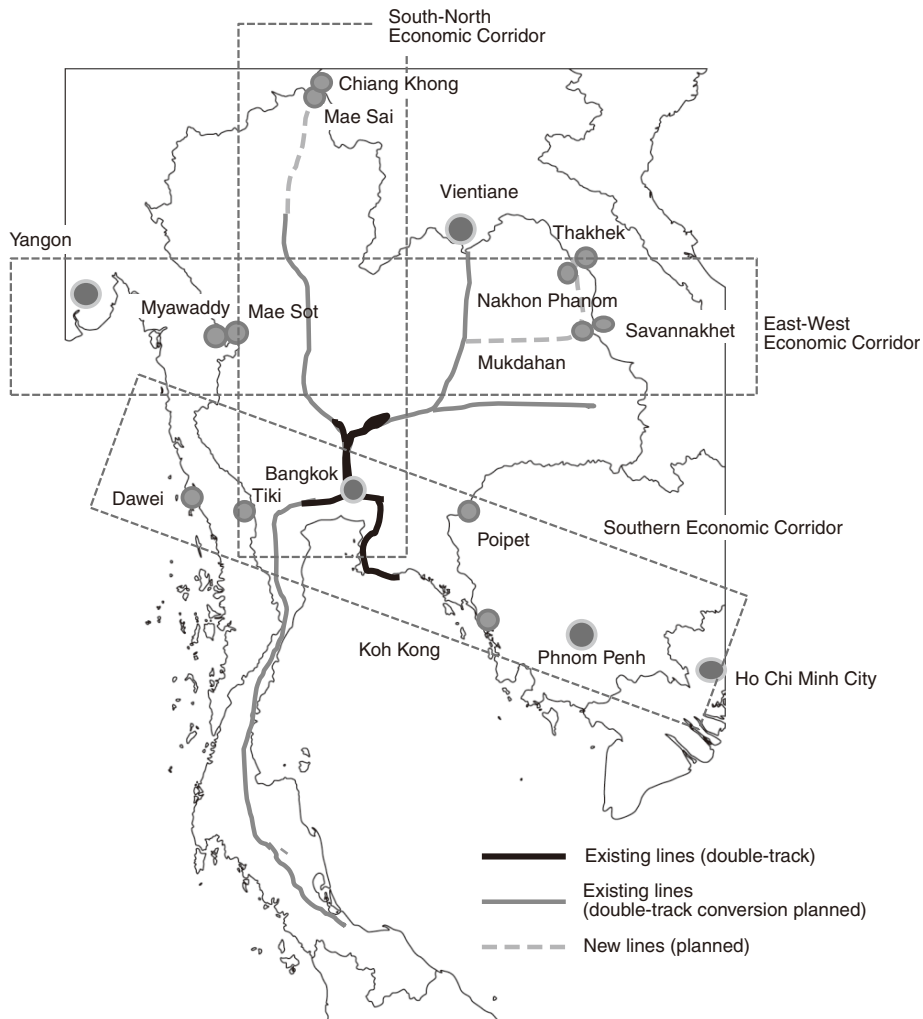
The aim of the second strategy, which has "con-

nectivity" as its key word, is to develop connections with regional transportation networks and neighboring countries. Specific initiatives include the development of high-speed rail lines and expressways, and the construction of new conventional lines. The total amount borrowed will be 954,757 million baht.

The key word for the third strategy is "mobility," and the aim is to develop effective transportation systems. Initiatives will include the improvement of urban rail systems, the construction of rail overpasses, the expansion of national highways to four lanes, and the improvement of tourist routes around the Gulf of Thailand. The total amount borrowed will be 672,503 million baht.

Actual connections with neighboring countries will include links from Ban Phai to Mukdahan (near Savannakhet in Laos) and Nakhon Phanom (near Thakhek in Laos), and between Den Chai and Chiang Khong (near Mae Sai in Laos) (Fig. 16). There are also plans for the construction of industrial parks in Thakhek and Mae Sai. In addition, transportation capacity will be increased by converting existing lines to double tracks. The establishment of these rail links between border regions and Bangkok will reduce transportation costs, further accelerating the realization of the Thailand-Plus-One business model. There are no

**Fig. 16 Railroad Expansion Plans**



Source: Compiled by JRI with reference to Kakizaki [2013]

plans for the construction rail links to Myawaddy, Poipet or Koh Kong, but these are located on the East-West Economic Corridor or Southern Economic Corridor, and roads are being constructed using domestic and overseas funds.

② **Support from the Asian Development Bank and Japan**

Funding from overseas will also provide a driving force for progress toward the realization of the Thailand-Plus-One model. From this perspective, we will next look at the Greater Mekong Sub-Region (GMS) Development Program, which is being implemented with the ADB serving as secretariat. We also examine Japanese support for the

program.

The GMS Development Program administered by the Asian Development Bank began in 1992. The program has focused on infrastructure development in the CLM countries, and also in Thailand, Vietnam and Yunnan Province and the Guangxi Zhuang Autonomous Region in China. This process has resulted in the development of the South-North Economic Corridor, the East-West Economic Corridor and the Southern Economic Corridor (Fig. 16 above).

The GMS Development Program targets cross-border development throughout Indochina and involves a wide range of activities, including the improvement or construction of roads, airports, railroads and other transportation infrastructure,

the supply of electric power, the development of agriculture, tourism and telecommunications, human resource development and environmental protection. A total of 55 projects involving expenditure of approximately \$14 billion had been carried out as of September 2011. In December 2011, the New Strategic Framework for 2012-2022 was announced at the 4th GMS Summit in Naypyidaw, Myanmar.

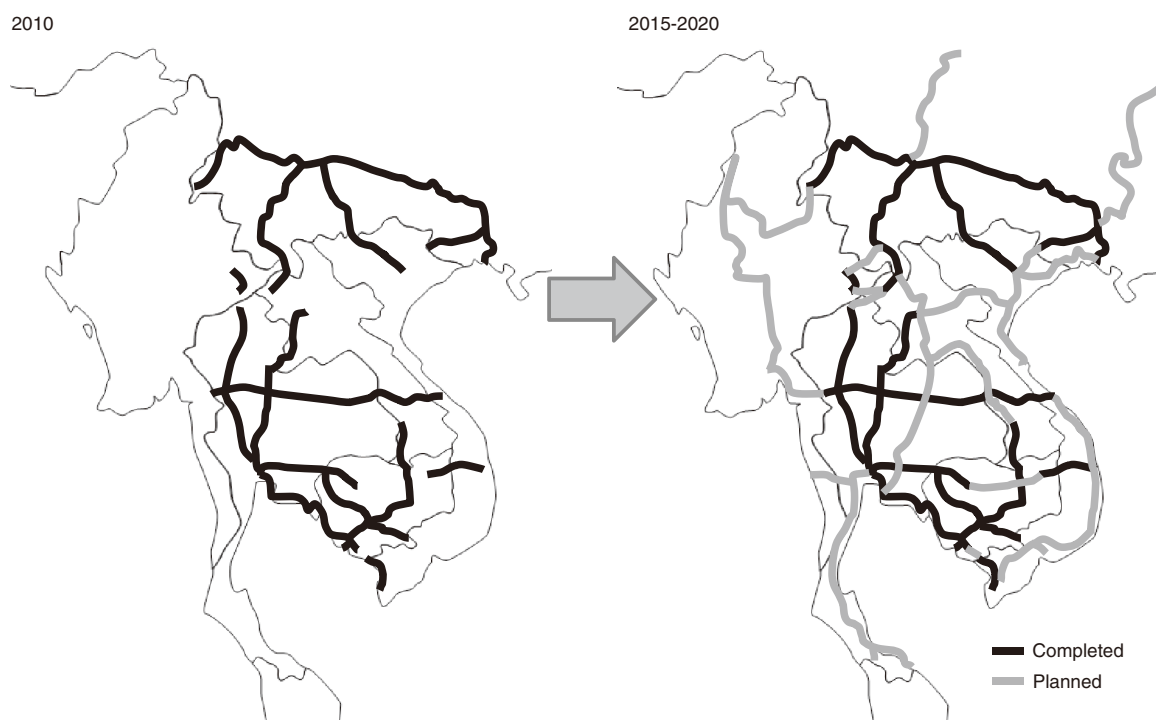
A 10-year plan based on this framework will be announced at the end of 2013. This plan is expected to include the development of roads branching off from the three Economic Corridors. Fig. 17 shows the state of road development in 2010 and plans for the period from 2015 to 2020. The plan will expand the range of possible locations for special economic zones beyond border regions, and the development of roads is likely to accelerate the movement of labor toward these special economic zones.

Japanese assistance to the CLM countries will have a positive effect on the Thailand-Plus-One business model. Japan has held summit meetings with Mekong region countries every year since

2009. In April 2012 it put forward Tokyo Strategy 2012, a cooperation policy for the period to 2015, with the catchphrase “A Connected Mekong for a Better World<sup>(9)</sup>.” The Japanese government has positioned this strategy as the foundation stone for its medium-to long-term approach to assistance for the Mekong region, which it regards as a key region for the global activities of Japanese businesses<sup>(10)</sup>.

This trend is expected to accelerate as a result of the Abe administration’s moves to strengthen support for ASEAN. Increased support for ASEAN is one of the pillars of the foreign policy launched by the Abe administration in 2012. Immediately after taking office as Prime Minister. He chose Vietnam, Thailand and Indonesia as the destinations for his first overseas trip in mid-January and subsequently visited Myanmar in May, and Malaysia, Singapore and the Philippines in July. His visit to Myanmar between May 24 and 26 was the first by a Japanese prime minister in 36 years. To coincide with that visit, the Japanese government agreed to forgive debts amounting to approximately ¥200 billion, including late payment penalties. He also

**Fig. 17 Development of the GMS Road Network**



Source: Compiled by JRI using ADB data.

signed three ODA loans providing credit of up to ¥51 billion at an interest rate of 0.01% and with a repayment period of 40 years. The package will be used for (1) development plans in impoverished regions (maximum of ¥17 billion), (2) an emergency infrastructure improvement and repair program (phase 1, maximum of ¥14.052 billion), and (3) the Thilawa district infrastructure development scheme (phase 1, maximum of ¥20 billion). Items (2) and (3) will support activities relating to economic development and are designed to encourage investment by Japanese companies.

#### 4. Thailand-Plus-One-Significance and Issues

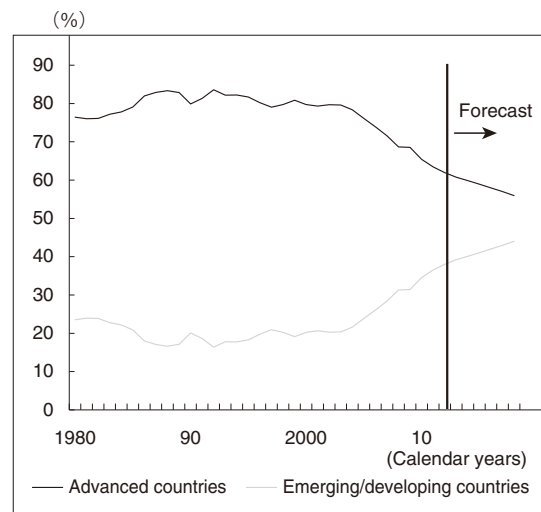
##### (1) Thailand-Plus-One and the Markets of Emerging/Developing Countries

The purpose of this final section is to underscore the importance of the Thailand-Plus-One business model to Japan from the viewpoint of securing markets in emerging and developing countries. In the 21st century, economic stagnation in the advanced countries has been accompanied by a marked rise in the presence of the emerging and developing economies. Access to markets in these countries is essential to Japan, which therefore needs a business model focused on that goal.

One indicator of the expansion of the markets of emerging and developing countries is their share of nominal GDP. The contribution to world GDP by emerging and developing countries changed little until the end of the 1990s but has been rising in the 21st century (Fig. 18). The contribution of emerging and developing countries climbed from 20.1% in 2000 to 38.8% in 2012, while their real economic growth rate over that period was 6%, which is three times higher than the 2% growth achieved by the advanced countries. If this trend continues, they will rank alongside the advanced countries by the 2020s.

The best way to develop and secure markets in emerging and developing countries is to establish production bases and expand sales outlets in the countries concerned. However, not all emerging

**Fig. 18 Economic Scale of Advanced, Emerging and Developing Countries**



Notes: Advanced countries: Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, South Korea, Luxembourg, Malta, the Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, the U.K., the U.S.A.

Emerging/developing countries: All others

Source: IMF, *World Economic Outlook*, April 2013

and developing countries have markets big enough to justify this approach in terms of profitability. In fact, the markets of most emerging and developing countries would be regarded as too small to justify the establishment of a presence. Other problems in many emerging and developing countries include inadequate infrastructure and stringent restrictions on investment. The main strategy used to secure markets in this environment is exporting. However, high labor costs and other factors mean that goods exported from Japan would not be competitive in the markets of emerging and developing countries<sup>(11)</sup>.

In this environment, Japanese companies need to use the supply chains that they have formed overseas to achieve further reductions in production costs. In this sense, the Thailand-Plus-One business model has the potential to become a supply chain to the markets of emerging and developing countries.



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## (2) Strengthening the Thailand-Plus-One Model

The characteristics of the Thailand-Plus-One business model become apparent when it is compared to the China-Plus-One model. The aim of the China-Plus-One model is to avoid investment risk in China by carrying out similar investment and production activities in other countries. The most frequent investment targets under the China-Plus-One model are the ASEAN countries, as well as India and Bangladesh. In contrast, the Thailand-Plus-One business model is based on a scenario in which production bases are maintained in Thailand, while some labor-intensive processes are shifted to the CLM countries. In other words, raw materials and components are sent to the CLM countries from production bases in Thailand, and parts produced in the CLM countries are then delivered back to production bases in Thailand. In short, the China-Plus-One model is used to avoid the risk of investment in China, while the Thailand-Plus-One business model is designed to strengthen the competitiveness of production bases in Thailand.

The development of the Thailand-Plus-One approach into a stronger business model cannot be achieved solely by changing the locations of production blocks or reducing service link costs. It is also necessary to improve the productivity of both the production blocks and the production operations that remain in Thailand.

The Thai government has come to regard the improvement of the competitiveness of production sites, including those belonging to Japanese companies, as a key part of its national strategy. The priorities identified by the Yingluck administration include the promotion of R&D expenditure and the improvement of higher education. As noted earlier in this article, the administration is also exploring investment strategies that will cause labor to shift into more productive industries.

In addition to these measures by the Thai government, the Japanese government is also supporting efforts to improve productivity. The Technology Promotion Association (Thailand-Japan) helps to transfer and disseminate the latest technology

and knowledge between Japan and Thailand and is also involved in human resource development. The Thai-Nichi Institute of Technology, which was established in June 2007, provides students with administrative and practical skills and knowledge that are directly relevant to Japanese manufacturing<sup>(12)</sup>. As of 2012, the university had 1,128 students. In addition, the Japanese government has formed a network of engineering universities in Southeast Asia as part of a project to encourage joint research between universities and private sector companies<sup>(13)</sup>.

At the business sector level, efforts are needed to improve productivity both across multiple companies and within individual companies.

In terms of inter-company interactions, because large numbers of Japanese companies are concentrated in production clusters in Thailand, an effective strategy would be to facilitate inter-company communication by forming cooperative structures. Thailand is the only overseas country where synergy benefits are likely to be achieved through communication by Japanese using the Japanese language. It would be useful in this context to create forums, perhaps centering on Japanese Chamber of Commerce, Bangkok, for the sharing of experience and expertise relating to management and technology. The creation of forums for networking among Thai employees of Japanese-owned companies could also lead to management and technological innovations.

At the intra-company level, it will be necessary to enhance the production functions that link R&D sites with actual production operations. This will require a range of measures, including the introduction of attractive training programs and systems for wage increases and promotion. Many production bases in Thailand have over 1,000 employees, and a Thai approach to human resource development is essential.

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## End Notes

1. In the motor vehicle industry, primary suppliers include manufacturers of mechanical parts and interior and exterior finishing materials. Secondary suppliers include press and tool manufacturers. Tertiary manufacturers include manufacturers of production machinery, and companies involved in distribution and warehousing.
2. Companies in this category include original equipment manufacturers (OEMs), which manufacture products to be sold under another company's brand, and electronics manufacturing service (EMS) companies, which produce and design electronic devices but do not have their own brands.
3. To qualify, a company must (1) invest in Thailand for at least 20 years, (2) have total assets in excess of 10 billion baht, (3) have at least 10,000 employees, (4) have completed its corporation tax exemption period, (5) be a manufacturer. In essence, these conditions constitute a prohibition on the employment of unskilled foreign workers.
4. High growth has resulted in the rapid modernization of central city areas in CLM countries. Moreover, while these countries have only just advanced from low-income to middle-income status at the national level, there is wide income disparity, and affluent classes have started to form in the cities. In addition, economic globalization is steadily changing residents' lifestyles. For example, the number of mobile telephone contracts per 100 people in Cambodia rose from eight in 2005 to 96.2 in 2011, while in Laos the number increased from 11.4 to 87.2. Ownership of mobile telephones was restricted in Myanmar, and there will still be only 2.6 per 100 people in 2011. However, the number is expected to increase rapidly.
5. The Hpa-An industrial park covers a large area of 400ha. Construction began in 2011 with the aim of stimulating local employment. A description of the current status of the area can be found in a Japanese article the January 4, 2013 edition of *JETRO Tsusho Koho* [JETRO Business News], which describes the establishment of garment factories in industrial parks along the Thai border. There are plans for the construction of an industrial park in Hpa-An using Thai capital.
6. The sea voyage from Bangkok to Yangon takes 21 days.
7. Since 2011, the Bangkok-Dawei route has been part of the Southern Economic Corridor.
8. The 2 trillion baht transportation infrastructure development plan is based on a 4 trillion 245.6 billion baht plan proposed to the cabinet by the Ministry of Transport. Under that plan, the Ministry of Finance would have raised 3 trillion 744.3 billion baht through loans. The plan was revised and compressed into the new 2 trillion baht plan (Kakizaki [2013], SBCS [2013]).
9. The specific projects that will be supported by the Japanese government are stipulated in this strategy. For details, see the website of the Ministry of Foreign Affairs of Japan (<http://www.mofa.go.jp>).
10. Ministry of Foreign Affairs of Japan, *Dai-4-kai Nihon-Mekon Chiiki Shokoku Shuno Kaigi (Hyoka to Gaiyo)* [Assessment and Overview of the 4th Summit Meeting between Japan and the Mekong Region Countries] ([http://www.mofa.go.jp/mofaj/area/Japan\\_mekong\\_k/s\\_kaigi04/gaiyo.html](http://www.mofa.go.jp/mofaj/area/Japan_mekong_k/s_kaigi04/gaiyo.html)) (Accessed April 25, 2013)
11. For a discussion of markets in emerging and developing countries, see Oizumi [2013].
12. See <http://www.tni.ac.th/web/TNI2012-jp/> for information about the Thai-Nichi Institute of Technology.
13. Known as "SEED-Net," this project is administered by the Japan International Cooperation Agency (JICA). For details see [http://www.seed-net.org/01\\_index\\_jp.php](http://www.seed-net.org/01_index_jp.php).

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